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ELIMINATION OF LEAD FROM THE SYSTEM.

[Read before the Boston Society for Medical Observation, and communicated for the Boston Medical and Surgical Journal.]

BY JOHN BACON, M.D.

FOR some years past, I have had occasion to make many analyses of the urine in cases of chronic lead-poisoning. Some points, which have attracted my attention, may have a practical interest for the members of the Society.

It is not known in what state of combination absorbed lead is locked up in the tissues. An organic compound of albumen with oxide or chloride of lead may be formed; or a double chloride of lead with chloride of potassium or sodium, as was long since maintained by Mialhe. Various compounds of lead taken into the stomach, except perhaps the sulphide, are decomposed and dissolved by the alkaline chlorides normally present in the alimentary canal; and a recent analysis by Prof. Wurtz shows that a leaden bullet, which had been for many years imbedded in a cyst in the lung, was corroded, much diminished in weight, and surrounded by a crust of chloride, free from sulphate or phosphate. In that case, lead was found in the substance of the lungs and of the diaphragm. The abdominal viscera were accidentally not analyzed. The patient had hemiplegia.

Absorbed lead is diffused generally through the system, but not uniformly. The spleen contains the largest proportion, and next to that the liver. Lead also occurs in the urine, which seems to be the chief channel of elimination. When once deposited in the tissues, the metal is very slowly removed, and the symptoms continue for many months after exposure to the cause of lead-poisoning has ceased. Still, there is no doubt that in time it will be eliminated spontaneously.

In cases of lead-poisoning where I have analyzed the urine previous to treatment, but after removal from the source of the poison, lead has rarely been present, or at least so very little as not to admit of detection in the quantities of urine usually employed for analysis.

Of late years, iodide of potassium has been much used as a means of eliminating absorbed lead, and most of my analyses have been made in cases under this treatment. Melsens, who introduced this remedy, maintained that large amounts of lead were removed in the form of iodide of lead, easily soluble in iodide of potassium, which is well known to pass off readily by the urine. At the present time, this belief still holds its ground among physicians. Yet, in the cases which have come under my notice, repeated analyses made at various periods after the use of iodide of potassium was commenced, and under large and small doses, have never detected more than a very small proportion of lead. Usually, it is more readily discovered after than before taking the iodide; but sometimes none at all can be found, when the symptoms of the case are well marked. As the processes used allow of the detection of exceedingly minute quantities of this metal, the conclusion cannot be avoided that, in cases of chronic lead-poisoning, the process of elimination is very slow, and a long time must be required to remove any considerable deposit from the tissues.

Some analyses lately made in a case at the Mass. Gen. Hospital will show this. The patient, an Irishman, 40 years of age, entered the Hospital March 9th, 1859. He has been employed in glass works for thirteen years. For the last six or seven months has worked in the *lead house* at the East Cambridge Glass Works, as a sifter of red-lead. For two or three months, has suffered from lead colic, and been under treatment at East Cambridge—taking, among other things, a few small doses of iodide of potassium. Paralysis commenced about a month before his entrance, and is rather general, though more severe in the arms than in the legs. There is no distinct wrist-drop. The blue line about the gums is evident. On March 12th, the urine was analyzed, and no lead found. Iodide of potassium was then given, at first in doses of five grains three times daily. On March 17th, 1½ pints of the urine were tested by Kletzinsky's process. Lead was distinctly detected, but not in sufficient quantity to be collected and weighed. On March 26th, the patient now taking iodide of potassium in twelve-grain doses three times a day, three pints, being nearly the whole of a day's urine, were analyzed by the process which I usually employ. The lead was separated as sulphate, and weighed. Its amount corresponded to $\frac{5}{1000}$ of a grain of oxide of lead, a little less than $\frac{1}{50}$ of a grain to the pint. The patient has improved under treatment. In other cases, I have found the amount of lead eliminated to diminish in a few weeks under the use of iodide of potassium, until beyond the reach of chemical tests, although the paralysis has not been relieved until afterward.

In the patient above referred to, sulphide of ammonium, applied to the skin of the arm, produced a brown discoloration, from the formation of sulphide of lead. This effect is frequently seen in

patients from white-lead works and similar manufactories, where the fine dust from lead preparations is gradually worked into the exposed parts of the skin, and is difficult of removal. The effect of baths of alkaline sulphides, however, proves that absorbed lead may be deposited in the skin, and that the metal in the tissues is, to a certain extent, in a soluble form. Such a bath discolors various parts of the body, but not uniformly. The color is sometimes nearly black. When the sulphide of lead formed on the skin has been removed by repeated washing with soap and water, the brown color is stated to be again and again obtained by repeating the sulphuretted bath at intervals of a few days; showing that when the lead is removed from the skin, a new portion is brought out from the interior. I have not had an opportunity of observing the effect of a repeated use of the sulphuretted bath, but it would seem that an appreciable amount of lead can be thus eliminated.

I find, from the recently published book of Dr. Thudichum, on the *Pathology of the Urine*, that Kletzinsky has noticed the very minute amount of lead eliminated by the urine. In fourteen cases of distinct lead poisoning, in which the urine of a whole day was analyzed, Kletzinsky succeeded in two only in proving the presence of the metal. In the others, only a doubtful indication was obtained. In a well-marked case in London, under the use of ten grains of iodide of potassium three times a day, Dr. Bernays twice failed to find lead in the urine of twelve hours; but after administering iodide of potassium for ten days, it was present in sufficient quantity to give a copious precipitate with sulphuretted hydrogen, in the solution obtained by evaporating the urine nearly to dryness and dissolving the residue in aqua regia.

It is evident that iodide of potassium, the most energetic agent known for removing absorbed lead from the system, is far less efficient in this respect than is generally believed.

CASE OF LITHOTOMY.

[Read at a meeting of the Elmira Academy of Medicine, August 2d, 1856, and communicated for the Boston Medical and Surgical Journal.]

BY W. C. WEY, M.D., ELMIRA, N. Y.

In 1856, Henry Smith, then 3 years old, a healthy, robust child, manifested symptoms which were supposed to proceed from the presence of ascarides in the rectum, though worms of that species had never been seen in his stools. He had frequent inclination to go to stool, strained severely while on the vessel, complained of itching and burning about the anus, and in a short time began to drag at the prepuce with his fingers, and to show signs of distress in the escape of urine. At a later period he passed water more frequently than was natural, and with an extreme degree of pain.

Still later, the discharge of urine became involuntary, so that his clothes and bed were always wet, and it seemed as if he had no power to control its expulsion, as soon as even a small quantity accumulated in the bladder. In this manner, from time to time relieved by treatment, he passed more than a year, when in September last, the presence of a stone was detected by a common gum-elastic catheter, as it was being withdrawn from the bladder. The stone was clearly and distinctly felt on many occasions, and always on withdrawing the catheter, just before the beak of the instrument escaped from the viscus, thus leading to the impression that the situation of the calculus was in the anterior portion of that cavity, beneath the pubes. Several months afterward a sound was introduced, and the stone was ***delicately*** felt, as the instrument glided into the bladder, but it was ***readily impressed*** as the sound was being withdrawn. The operation of sounding was accomplished while the boy was under the influence of chloroform. Before, in using a catheter, it was always found necessary to overcome his stout resistance, by force, though he alleged he did not suffer pain in the operation. He evidently apprehended some more serious surgical interference.

The sound, after entering the bladder (and this was our subsequent experience), could be moved in two directions only: forward and backward. It could not be made to sweep around the bladder, but seemed to be held laterally, as if it had not yet penetrated completely within that cavity. The bladder appeared to be always empty, or, to speak more correctly, it was every few minutes emptied of its contents. While the sound was being used, urine would be forced, by powerful straining, along the side of the instrument, and at the same time prolapsus of the anus would occur. Prolapsus of the anus had existed with every movement from the bowels, and with most of the acts of urination, for eight months before the operation. The presence of the stone exciting the bladder to constant contraction, thus inducing a condensed and unyielding firmness of its walls, probably proved the reason why the sound had so little liberty of motion in a lateral direction. Considering the situation of the stone beneath the pubes, and its perfect immobility, no information of the least value could be obtained respecting its size or shape; and we were left wholly to conjecture as to these important peculiarities.

On the 15th of June last, the boy being then 5 years and 3 months old, I performed the lateral operation of lithotomy, assisted by Drs. Squier, J. F. Hart and Covell. Chloroform was administered, and the patient remained insensible until some time after the removal of the calculus. An incision, a trifle over an inch in length, was made from the *raphé* of the perinæum, five or six lines above the margin of the anus, obliquely downward and to the left, midway between the anus and the tuberosity of the ischium. The groove of the staff in the urethra was readily reached,

and the scalpel was carried through the prostate gland into the bladder. Not more than a teaspoonful of urine escaped through the wound. The staff was then withdrawn, and, guided by the finger, a pair of common polypus forceps were conducted into the bladder. After a little delay, the stone was felt, occupying a position behind the pubes, and the blades of the forceps were made to grasp it. In the effort to extract, the calculus broke, and two small pieces were withdrawn. The calculus had now changed its situation, and by introducing a finger in the rectum to serve as a guide, the stone was grasped securely by the forceps, its axis corresponding with the direction of the wound, and after gentle, but persistent traction, aided by moving the handles of the forceps, perpendicularly and laterally, to enlarge the opening in the prostate, it was at length extracted. The bladder was washed out with warm water directed through a syringe, and my little finger made a careful exploration in search of another stone, but without finding one.

I endeavored, as nearly as possible, to follow the plain directions of Mr. Liston, in the successive steps of the operation.

The calculus, which is of the variety known as the *triple phosphate*, or the *ammoniaco-magnesian phosphate*, weighed two hundred and forty grains. It was oval in shape, rough and shining on its external surface, and disposed to crumble or scale, but firm and dense within. It has hardened from exposure to the air.

A gum-elastic catheter was passed through the wound into the bladder, a portion cut off, leaving two inches of the tube projecting, and it was held in its proper situation by means of strings secured to a handkerchief, tied above the pelvis.

Three hours after the operation, the boy had fever, complained of pain in his head, was dizzy, and called for cold water. I ascribed the pain and dizziness in his head to the influence of chloroform. Urine was flowing freely through the tube.

Three hours later, at 6 o'clock, P.M., his fever had abated, and moisture appeared quite generally upon the surface of the body; still he was clamorous for cold drinks.

June 16th, 8 o'clock, A.M.—Passed a quiet night, crying out twice with pain in the region of the bladder. Tongue moist, skin cool, urine abundant. He calls urgently for hearty food.

6 o'clock, P.M.—Has passed a comfortable day, without a trace of fever; bowels and whole abdominal surface free from tenderness. He turns from one side of the bed to the other without difficulty, and is eager to eat substantial food. Urine abundant, and some mucus is discharged with it.

17th, 8 o'clock, A.M.—Had a good night; slept more quietly and continuously than for months before. The bed is wet, from the escape of urine through the tube, and nearly forty-eight hours having elapsed since its introduction, it was withdrawn, and in a quarter of an hour urine passed in a free stream through the ure-

thra. The bowels not having moved since the morning of the operation, castor oil was given.

6 o'clock, P.M.—The oil had operated several times quite freely; morphia in solution was given to check the discharges. He has occasional twinges of pain in the region of the bladder. In accordance with the recommendation of Mr. Bransby Cooper, in cases of a like character, I allowed more generous diet; in fact, I advised the attendants of the boy not to restrict him to any special diet, but to allow him whatever he called for, both to eat and to drink. Acting upon this suggestion, and to quiet his unceasing cries for hearty food, he ate a piece of boiled ham, with bread and butter and potatoes, and concluded the meal with strawberries. Urine escapes freely through the wound.

18th, 8 o'clock, A.M.—Slept well; early in the morning urine escaped in a full stream through the urethra; urine is constantly escaping through the wound. Suffered no inconvenience in consequence of the increased allowance of food. Cries to sit at the table and take his meals with the family. Liberal diet continued. The wound looks well, discharges urine, and is beginning to secrete pus.

7 o'clock, P.M.—Still improving; during the absence of his mother for a moment, he got out of bed, ran to another room for water, and was in the act of climbing into bed when discovered. It is extremely difficult to confine him; so much so, that one person is compelled to sit beside the bed, to keep him from running about the house.

I will not detail his progress from day to day, as it would be tedious to listen to the record, particularly as no circumstances of importance occurred until the twelfth day, when, for the third time since the operation, urine escaped through the urethra again, and the wound quite suddenly closed. Forty-eight hours after the operation, it will be remembered, a few minutes after withdrawing the tube from the bladder, he made water through the urethra. Again, twenty-four hours subsequently, he made water naturally, and not again until the twelfth day, when the flow of urine ceased wholly to take place through the wound, and passed in the natural channel, at intervals varying from one to three or five hours. During sleep it passed involuntarily until the night of the 6th of July, when the bladder was not emptied from the time of going to bed until early in the morning, on awakening from sleep. During all this period of three weeks, he was inclined, whenever the desire to make water seized him, to take hold of the prepuce and pull violently upon it, whether in the sleeping or waking state. His bowels moved regularly every day after the third day from the operation, until the fourteenth or fifteenth day, when he was attacked with diarrhœa, which continued nearly a week, reducing him in strength and weight materially. While suffering from diarrhœa, prolapsus of the anus took place, but this condition sub-

sided as soon as the discharges became natural again, and up to this time, July 14th, it has not returned. The boy appears now to be perfectly well.

After reading the above article, some discussion arose in the Academy, respecting the great rarity of calculous affections in this section of the country. This case is remarkable *chiefly*, and perhaps *only*, because it is the first instance of stone in the bladder that has ever been presented to the notice of physicians now living in this vicinity. Doctors Purdy, and E. L. Hart, the former of whom has since died, whose experience and practice in this county extend over a period of more than thirty years, had never met a like case; nor had they ever known of one in the practice of others among their associates, and it is to be presumed that this is the only example of vesical calculus that has ever had its origin in the County of Chemung.

A few years ago, Dr. Frank H. Hamilton, of Buffalo, addressed a circular to nearly all the physicians of this and the neighboring counties, making special inquiry relative to the frequency of cases of vesical calculi, within the field of their observation. Not a single instance was reported to him from this county; and in conversation with physicians from the various towns, I ascertained that such affections were wholly unknown in actual practice.

LETTER FROM PARIS.

[Communicated for the Boston Medical and Surgical Journal.]

Audible Knockings of the Muscles—Idiopathic Tetanus—Dislocation of the Hip-Joint, unreduced for six months—Removal of the Entire Tongue—Operation for Vesico-Vaginal Fistula.

At a recent meeting of the "Académie des Sciences," M. Jobert de Lamballe read a paper, the subject of which is highly interesting, not only to the surgeon, but also to the non-professional reader. Not very long ago, this distinguished surgeon was called to visit, in consultation, a young girl about 14 years of age, who, for more than six years, had suffered from involuntary movements in some of the muscles on the outer side of the leg. These movements were characterized by pulsations or knocks, having almost the regularity of a pulse, each knock being distinctly heard at some distance, as proceeding from behind the external malleolus. A similar affection manifested itself, not long after the first, at a corresponding point in the left leg, though less intense in degree. There was pain, hesitation, and tendency to fall when walking. When the foot was extended, and on applying pressure to certain points along the course of the muscles, the patient could for a time arrest the throbbing; but this invariably produced a good deal of pain and fatigue in the limb. The parents of the girl had

become quite settled in the belief that the peculiar sounds or knocks which proceeded from the limb were the result of supernatural agency; and it was not till M. Jobert had made a careful and scientific investigation, and fully explained the matter to them, that their minds were disabused of this idea. He found that these sounds were produced solely by the rising and falling of the tendon of the peroneus brevis muscle, while contracting, or in action, and at the part where the tendon passes along its osseous groove. The involuntary character of these movements he believes to have been owing to some peculiar functional trouble of the muscular fibres or the nerves supplying them.

M. Jobert believes it possible, that, by a little practice, these knocks or pulsations, although in the case in question altogether independent of the volition of the individual, could be produced at will, and that it is to the possession of this peculiar power that the entire secret of mediums and the so-called spirit-rappers is due. These peculiar sounds, he stated, could be produced by the muscles and tendons in other parts of the body, and he related the case of a lady who could give rise to them at the hip-joint by assuming a particular position.

M. Velpeau has met with a number of instances of this character, occurring in different localities. The muscles and tendons both of the shoulder and of the leg, of the upper as well as the lower extremities, were equally capable, in rare instances, of producing these peculiar raps or sounds. Certain conjurors had been known, who could even produce a kind of harmony by a succession of knocks, in this way imitating the tune of a dance or a military march.

M. Jobert brought the history of this interesting case to a close, with a few remarks on the surgical treatment which he adopted. The medical attendant upon the girl had failed to do her any good, although he had employed a great variety of remedies, such as leeching and blistering, continued pressure over the part, &c., together with the internal use of medicines. M. Jobert treated the case as follows: he cut across and completely divided the body of the peronæus brevis of both legs, by means of a subcutaneous section; then, by means of a suitable splint or apparatus, put up the limbs so as to secure their perfect immobility. When re-union had taken place, the girl recovered the complete use of both members, and no trace of the affection has since appeared. The cure was complete and permanent. M. Jobert continued his remarks, and observed that a German physiologist, M. Schiff, whose attention had been given largely to this subject, made the discovery, some three or four years ago, as to the seat and origin of these peculiar sounds which have been so commonly attributed to supernatural agency. Observing that the sounds proceeded invariably from the foot of the bed of the individual who pretended to be influenced by spirits, M. Schiff began to question and to have serious

doubts of their supernatural origin, and was not long in concluding that they were the result of natural causes, to be accounted for and located in the body itself. From his knowledge of anatomy, he was led to think that the seat of these sounds might be the peroneal region, where there exists a bony canal or groove, along which pass the tendons of the peronei muscles. After a little practice, he was enabled, in whatever position he placed himself, to imitate all the tricks and prodigies of spirit-rappers, and he clearly established the fact that these peculiar sounds originate in the tendon of the long peroneus muscle, and moreover that they are dependent on a diminution in thickness of the sheath, or in the total absence of the sheath, of this muscle. While agreeing with M. Schiff as to the seat of these sounds, M. Jobert differs with him, as we have already seen, as regards the particular muscle producing them. The one believes that it is the peroneus brevis; the other is of an opinion that it is the peroneus longus, which is mainly concerned in their production. They differ again, on another point, viz.: the sounds or knocks observed by Schiff were purely physiological, altogether voluntary, dependent upon the will; in the case of M. Jobert's patient, the movements were of an involuntary nature, painful, consequently morbid. The subject is really one of much interest, and well meriting a further investigation on the part of anatomists and physiologists. When once the purely physical character of these sounds is demonstrated, much may be accomplished in the way of dispelling the absurd superstition connected with spirit-rappings.

During the last fortnight, we have met, at Hôtel Dieu, with an interesting case of idiopathic tetanus. This was entirely a novelty to us, it being the first example of idiopathic, in contradistinction to traumatic, tetanus we had ever seen. The patient, so far as could be ascertained, had sustained neither wound or injury of any kind—he was a gardener, and about forty years of age. Some time before the beginning of the disease, he had been exposed to cold and wet. When he came into the service of M. Grisolle, the tetanic spasms were confined principally to the muscles of the jaws and neck, and assuming the form of trismus; in a few days the spasms became more general, embracing the muscles of the chest, abdomen and lower extremities, rendering them as hard as a piece of board. Paroxysms were occasional, but not frequent, and not marked by a very great increase of pain. The symptoms went on increasing gradually until about the twelfth day, when they began slowly to give way. The treatment which M. Grisolle employed consisted altogether of opium, in large and continued doses. Each day this drug was regularly administered, to the extent of two grains of the extract. The patient got well, and was discharged about the twenty-first day.

There is in the same Hospital, in the service of M. Robert, a patient suffering from a dislocation of the right hip-joint, of six

months standing. The head of the femur is easily recognized resting in the large ischiatic notch; the limb is at least three inches shorter than its fellow. This serious injury befel him while working in the gold mines of California. The surgeons on the spot made vigorous and repeated efforts to reduce the dislocation, and similar unsuccessful attempts were made subsequently in the Hospital at San Francisco. Failing to obtain relief in that region, he came to France, his native land, in the hope of finding it here. Two attempts have already been made by means of pulleys, aided by the powerful influence of chloroform. The head of the bone was brought to a level with the acetabulum by the extension employed; still its coaptation could not be accomplished. During the operation, a force equal to three hundred and twenty pounds was used. An attempt, similar, we understand, is to be repeated in the course of a few days; but from the length of time which has elapsed since the occurrence of the accident, there is no reason to think that the surgeons of the French capital will be more fortunate than their brethren of California have been.

At the Hôpital Lariboissière, where a great variety of surgical operations generally come off on Mondays, M. Chassaignac performed, a week ago, the very serious and important operation of removing the tongue, far back, close to its base, in consequence of a cancroid disease. The method employed was the écrasement linéaire—a favorite operation with M. Chassaignac, of which, as most of your readers are aware, he is the author. The poor man had been already twice operated on, but in both instances only a small portion of the tongue had been removed. The disease again re-appearing, and threatening to involve the entire organ, its complete extirpation appeared to be the only resort left, and was resolved on. Two or three days before operating, M. Chassaignac passed a drainage tube round about the base of the tongue from without, immediately above the large horn of the os hyoides, the point where the tube was introduced being a little to the right of the median line. A passage for the chain of the ecraseur having been thus prepared, on withdrawing the tube, the chain was placed in the right position to make the transverse section of the organ. This was accomplished in exactly half an hour; two minutes were allowed to elapse between each movement of the instrument. The chain was then passed behind the base of the separated organ, and made to embrace the muscles and tissues attached to its under surface. This second part of the operation was completed in thirty minutes more. The entire time occupied was thus precisely an hour. During all this time, the poor man sat upright in a chair, and did not evince great suffering. The quantity of blood lost was quite insignificant. We saw the patient a week after the operation, and he was in as favorable a position as could reasonably be expected under the circumstances.

On the 28th of April, the first operation in France, by a French

surgeon, was performed at the "Hôpital Necker," upon Bozeman's method (button suture), for the cure of a vesico-vaginal fistula. M. Follin, a young surgeon of great promise, who operated in this instance, with M. Verneuil, of whose interesting lectures upon plastic surgery we took occasion to allude in our first communication upon this subject, are laboring to bring the operation into notice and use in the hospitals of Paris. M. Jobert de Lamballe, who operates more frequently, perhaps, than any other surgeon in France, goes on treating these grave accidents as hitherto, just as if no better method or more successful operation was known than the one he performs. M. Follin's patient, though of a rather delicate constitution, was in good health. She was 36 years of age, and the accident occurred four years ago, in her first labor. She had been operated on already once, about three years before, by the same surgeon, but it resulted in no good. The fistula occupied a considerable portion of the bas-fond and a part of the trigone of the bladder. Nine sutures were used in the button to bring the parts together, after the edges had been carefully pared. The patient had not a bad symptom after the operation, and on the ninth day the sutures were removed, and the cure was found to be complete. J. F. N.

Paris, May 5th, 1859.

DIPHTHERIA.

[Communicated for the Boston Medical and Surgical Journal.]

As pseudo-membranous sore throat is a subject which has been frequently referred to in medical journals of late, and has also recently attracted the attention of many of our most prominent physicians, we would briefly state that this disease appeared in an endemic form, and with great mortality, in this vicinity, during the months of March and April last.

It first made its appearance in Orange, an adjoining town (which is in an elevated situation, and is a remarkably healthy place, with only a sparse population), and for a while was confined entirely to the scholars attending a select school in the village, but who were boarding in different parts of the neighborhood. This fact, with some other circumstances, indicate, most obviously, that some local cause connected with this school was conducive to the disease.

Fourteen cases, out of fifteen of those who were first attacked, proved fatal, in periods varying from six to twenty-four days. Twelve of these cases were in three families, four in each. Five were under 10, eight were 10 to 22, and 1 was 40 years of age.

In this disease (as in other zymotic diseases the etiology of which is generally obscure), it is difficult to determine how far it could be justly attributed to meteorological, miasmatic or other causes. Most persons, however, including every age, residing in

the district where the endemic first appeared, had at different periods, and during its prevalence, symptoms of the disease, more or less severe; but those who were exposed and attacked severely (the writer among this number), in removing to another locality, suffered from only a modified and mitigated form of it—corresponding in this respect with the general law of endemics. That the disease was contagious, is a fact which, we think, must have been apparent to every person possessed of a discriminating mind, who had an opportunity to observe its peculiar character, tendency and progress. In families where several members were attacked, those last seized were found to run the most rapid and violent course, terminating, in some instances, in six or seven days; owing, doubtless, to the fact that those who were last attacked were exposed, not only to the original source of the contagion, but also to the peculiar poison generated or given off from those who were already suffering from the disease.

The period of incubation varied from five to twenty days; but in most cases a period of two weeks elapsed between exposure to the disease and its invasion.

The anatomical lesions were principally those of the lymphatic glands, especially the cervical glands, which in the most malignant cases were greatly enlarged, so as to interfere with deglutition and seriously obstruct the air passages.

The first symptom of this disease, and it is one which we have never seen referred to by any writer on the subject, was *pain in the ear*. It was not only pathognomonic, but prominent, and almost invariably present, in every case that came under our observation, for a day or two before the patient made the least complaint in any other respect, and before the smallest point or concretion of lymphatic exudation could be discovered on the tonsils or elsewhere.

To this symptom we would add, stiffness of the muscles of the neck, extreme prostration, depression of the nervous system, slight chills, increased action of the salivary glands, sore throat, tongue slightly coated in the centre and red around the margin, orthopnœa, feeble and generally accelerated, but occasionally prematurely slow, pulse. On inspecting the fauces, the tonsils were found to be red, enlarged, and inflamed, and soon small points of lymphatic exudation could be discovered on them, which would rapidly spread over the contiguous parts, until it completely covered the amygdalæ, uvula, soft palate, and the entire surface of the pharynx with a pseudo-membrane, which continued to extend upward until it closed the nasal fossæ, and downward until it invaded the larynx, where its progress was indicated by a hoarse cough, aphonia and orthopnœa, and terminating at length in secondary croup.

The appetite and digestion in most cases were unimpaired; and although typhoid fever was superadded, or ensued in one or two

instances, there was not, in any case, mental disturbance that was observable, during any stage of the disease.

In several cases petechiæ were discovered, scattered over the body and arms, in the advanced stage of the disease. This symptom, however, was not generally met with, nor was it apparently dependent upon any peculiar debility, or malignancy of the case.

The organs of deglutition being in every severe case extensively involved, dysphagia was of course a common and distressing symptom. In one case, the obstruction of the œsophagus was complete, and the patient, after having survived the primary stage of the disease, and after having given, in all other respects, a reasonable hope of recovery, sunk for the want of nourishment, and died of pure exhaustion.

With reference to the course of treatment which was pursued, it is perhaps unnecessary to say that, in a disease characterized, as this was, by such decided atony, through every stage, no depletory measures were adopted, except perhaps occasionally an emetic or mild laxative, in a few cases in which an evacuation of the primæ viæ was plainly indicated.

External revulsives, the topical application of alum, and nitrate of silver to the morbid surface of the throat, gargles of chloride of soda, tannin, capsicum, statice limonium, and other astringents, were thoroughly and perseveringly used, but with very unsatisfactory results.

Hydrochloric acid and tincture of myrrh, combined in equal parts, and applied with a sponge to the fauces, detached the pseudo-membrane more readily, and diminished the liability of its being renewed, more effectually than any other remedy used for that purpose. But Monsell's salt was found to be the most efficacious and valuable of all topical applications; affording, in some instances, decided relief. Its active astringent property rendered it peculiarly appropriate and well adapted to obviate that relaxed and enfeebled condition of the throat which attends the advanced stage of the disease.

The free use of alcoholic stimulants, especially brandy and whiskey, generally produced profuse diaphoresis, by which great relief was experienced, not only from the general depression of the nervous system, but also from the most formidable local affection.

Several cases were treated exclusively and successfully by the liberal use of alcoholic stimulants and sulphate of quinine, in doses sufficient to produce its peculiar effect on the hair.

Those that recovered, convalesced slowly; and in such cases it was necessary to continue the use of tonics and stimulants during most of the long period which generally elapsed before the natural functions of the system were fully restored.

Milford, Ct., June 20, 1859. L. N. Beardsley.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION. BY ROBERT WARE, M.D., SECRETARY.

April 4th.—*Elimination of Lead from the System.* Dr. Bacon read a paper on the "Elimination of Lead from the System," in which he stated, as the result of his analyses of the urine in cases of "Lead Disease," that the efficiency of the iodide of potassium in removing the mineral was overrated, so far as the presence of any considerable quantity of lead in the urine was an evidence of this efficiency. (This paper is published in the present number of the Journal.)

Dr. Minot asked if the iodide was given in any particular form, or amount, of vehicle. Dr. Bacon could not say in what form it was prescribed. Dr. Minot thought it was more likely to be efficient if given in a larger quantity of water than is usually ordered, in the same way that the various salts in mineral waters are more efficient in the natural state, than when, after evaporation, they are re-dissolved, and given in a concentrated form.

Dr. Sargent asked Dr. Bacon if he supposed the iodide to be more efficient in proportion to the size of the dose.

Dr. Bacon said his impression was that the small doses were as efficient as the large.

Dr. Minot observed that as we see in some instances a certain amount of iodide must be taken into the system to produce certain effects (as in the case of venereal nodes, which do not yield to small doses of the salt, but disappear when the quantity is increased), it is not unreasonable to suppose that this large quantity is required, though much of it does appear to pass out of the system unchanged.

Dr. Bacon replied that the iodide was supposed to act directly upon the lead in the tissues, and that the amount of lead eliminated was always much less than the iodide of potassium present with it in the urine was capable of holding in solution.

Dr. Slade thought that, in the use of this salt, as much effect could be got from three grains as from sixty grains three times a day. He had seen its specific effects produced in two or three days by this small dose.

Dr. Sargent asked if cases did not occur in which there seemed to be an induction of the colic by the iodide, which had been prescribed because the blue line, sallow complexion, &c., indicated the existence of lead, though no colic had previously occurred in the case.

Dr. Bacon replied that this appeared to be the case in some instances.

Dr. Hodges, referring to Dr. Bacon's statement, that in one case he had obtained $\frac{1}{10\,0\,0\,0}$ of a grain of lead from three pints of urine, asked if this was a large quantity.

Dr. Bacon said it was larger than usual. In answer to the question if any analysis had been made of the amount of lead contained in the tissues of the whole body, he said that he knew of no analysis of the whole body in any case of lead poisoning, but that various parts and organs had been analyzed, and the amount of contained lead had been found to be larger in the liver and spleen than in the other tissues, but no actual quantitative results were obtained.

Dr. STEVENS asked if "lead disease" was ranked among the "self-limited" diseases.

Dr. Bacon said: the prevalent impression among physicians is that (sufficient time being allowed, and the removal from the source of the poison being complete), the system will relieve itself. Recent experiments upon animals tend to prove the truth of this, though the observations were rather of the effects resulting from the use of large doses of lead, than from the prolonged introduction of minute quantities.

Dr. WHITE: is it known what proportion of the workmen exposed to the influence of lead suffer from the various forms of lead-poisoning?

Dr. Bacon: I know of no statement of this proportion. Much would depend upon the care taken by the workmen, and upon the form in which the lead is introduced into the system. It is probable that those salts of lead, which are most readily taken up by the organism, will produce their effects most rapidly, but the alkaline chlorides existing in the system are among the most efficient solvents of lead, and will promote the effect under whatever form the lead is introduced.

Dr. WILLIAMS: is not the work at the glass houses, which requires the use of lead, among the most likely to produce lead-poisoning? It is my impression that some form of lead disease is the general rule among those employed in that part of the process, who are exposed for any considerable length of time. Among the workmen employed in grinding lead for paints, the amount of disease has diminished, and the attacks have been less severe, since the lead has been ground in oil.

Dr. Bacon: the workmen of the glass houses are very liable to be attacked. The old process of grinding lead for paints without oil must have been an active cause of disease, since the dust arising was not only inhaled, but was absorbed by the skin, which became so impregnated with the lead that it was difficult to remove it, even by repeated washings.

Dr. Sargent: how is the colic, which occurs from sleeping in newly-painted rooms, accounted for?

Dr. Bacon: it is not satisfactorily explained. Experiments give no trace of lead in the exhalations from the walls, and yet cases are given by reliable observers, for which no other cause can be assigned. Dr. Taylor (of London) has himself suffered from severe colicky symptoms, which he could ascribe to no other cause than having slept in a freshly-painted room?

Dr. Stevens: is there lead enough in the Cochituate water to be detected by analysis? and does not a deposit form upon the surface of the pipes?

Dr. Bacon: perceptible traces of lead are found in the water, even of the largest mains. A red coating of the salts of iron and lead is formed in the lead pipes, which is supposed by its insolubility to protect against farther injury to the water, but this coating has been proved to be slightly soluble, especially in the presence of the alkaline chlorides.

Dr. Stevens: is the action of the water upon the pipes greater in the new, than the old pipes?

Dr. Bacon: it is usually less in the old than in the new pipes. The amount of action depends very much upon the character of the water,

and still more upon the galvanic action which is set up in the pipe wherever particles of the undecomposed sulphide of lead are imbedded in the lead of the pipe.

Bibliographical Notices.

Science and Success. A Valedictory Address, delivered to the Medical Graduates of Harvard University, at the Annual Commencement, 1859. By Henry Jacob Bigelow, M.D., Professor of Surgery.

Dr. Bigelow's address is alike remarkable for its independent and vigorous thoughts and for the eloquent and graceful words by which they are expressed. It puts in strong relief the idea, which students scarcely seize, till they learn it through their own observation, that science and success are widely different things; the one does not imply the other. The man who oftenest finds occasion to draw from his well-dotted "visiting list" those familiar bits of paper, whereon "preparations" are written for, is not, therefore, the greatest man of science; nor does the man of science, by mere virtue of his learning, secure a practice only to be measured by his own powers of endurance.

This is a plain truth, not always owned up to. It has brought a deal of consolation, however, to many a "junior practitioner," if not to the ardent students just gaining their diplomas, to learn how wholly incapable the public at large is to judge of the relative merits of medical men. How many a young physician has been glad to feel, that because patients do not learn the way to his door as they do to his neighbor's, the necessary corollary is not his own incapacity; that he need not yet be disheartened, but rather relieved, that the measure of his success does not depend on the whims of hysteric women or the patronage of ill-bred parvenus.

Perhaps heresy will be said to lurk amid the satire which flows so readily from Dr. Bigelow's pen as he speaks of therapeutics, or paints the practitioner; but a keen appreciation of what goes on around us, an understanding of the things which many see and feel, but dare not speak of, lest they mar the spell which binds them to the world of patients, is not heresy; nor is there cynicism in those sharp lines which delineate the prescriber as distinct from the conservative student of nature.

The sooner these distinctions are drilled into the minds of men, the more they hear of them, the sooner shall we be rid of those "unsound and exceptional organisms of the community on which the parasite of quackery feeds and fattens; the sooner will that ideal excellence, so often held up under the name of science, cease to be a chimera."

This end is only to be attained, as Dr. Bigelow well insists, by the sound and thorough education of the medical student and by the adequate support of Medical Schools. By these shall the student earn and deserve his proper place; by these alone shall the public learn where to look for help in the perilous days of sickness.

If disagreeable truths are plainly stated in Dr. Bigelow's address, if weak spots in the body medical are remorselessly exposed, the attractive style and good humored manner in which all is said, ought certainly to gain for it the approval of every honest man, and win for

its author the credit of a brilliant defence of that rational medicine with which the honored name he bears has so long been identified.

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Observations on the Treatment of Fractures of the Femur, with a New Apparatus, and Report of Seventeen Cases. By J. H Hobart Burge, M.D., and William J. Burge, M.D. Brooklyn: W. Wilton, Printer. 1859. 12mo. Pp. 56.

This pamphlet contains a description of a new apparatus for fractures of the femur which is designed to obviate the counter-extension from the groin, and the immobility, and other inconveniences of the ordinary splints. The counter-extension is made from the tuberosity of the ischium, and by an ingenious arrangement the patient is allowed considerable motion, and can even sit up. The inventors claim a much larger percentage of good limbs from their apparatus than from any other, and cases are appended to prove this. The splint is highly praised by Prof. Hamilton, of Buffalo, and we cordially recommend it to the attention of surgeons.

Hints toward Physical Perfection or the Philosophy of Human Beauty, shewing how to acquire and retain bodily symmetry, health and vigor, secure long life, and avoid the infirmities and deformities of age. By D. H. Jacques. 12mo. Pp. 244.

This work is from the prolific press of Messrs. Fowler & Wells, and like many other of their publications contains much that is good, mixed up with much that is fanciful and not well founded, though generally plausible. It is emphatically a book for the people, and of a kind we do not object to. What it does positively teach is correct, and we hope it will have the effect of setting them to think, and of putting them in the way of attaining some little portion, at least, of what is promised in the title page. Twenty per cent of this would make it fully worth while. The chapters on exercise and on the abuses of the stomach are particularly excellent. Altogether the book shows a freedom from the dogmatism and ultraism which so frequently characterize publications of this sort; and although we think some passages might have been omitted without great loss, on the whole, we look upon it as a publication destined to do its service.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, JUNE 30, 1859.

MEDICAL SOCIETIES—THEIR IMPORTANCE AND MANAGEMENT.

Various associations naturally and of necessity spring up amongst medical men, not only for the purpose of protecting the profession, as a body, but for medical improvement and the attainment of those advantages which arise from frequent intercourse with their brethren of the same pursuits. These societies, while they may be made the means of great good in various ways, may also be allowed to become stagnant in their operations, inefficient in their legislation, careless in

the selection of their members, and sometimes nearly or quite effete, by reason of neglect on the part of their members to keep up an interest in their meetings, or even to attend them at all.

There are few of our profession, we imagine, who do not admit the great importance of maintaining medical organizations—not only such as are formed for the purely police purposes of our calling—such as the "Boston Medical Association," a most useful, important and essential portion of our medical body politic—but others of various nature; yet individuals do not, by any means, act as if they felt the responsibility which devolves upon them. Take the Society we have just referred to—established in the earliest days of our city's existence, for the purpose of regulating the action of the members of our profession toward one another, and especially toward the community, it has been continued until the present day, and forms a more important feature of our organization as a professional body, than any one would imagine who attends its Annual Meetings and witnesses the meagre collection of physicians assembled. We conclude that many are too lazy to attend; others forget the meeting; others still, are perhaps so mistaken as to think the meetings of the association alike useless and of no sort of consequence; and that they might as well be abolished as not, for aught they see or care. We differ from such persons in their opinions, and will only say further, in respect to this organization, that we have been promised—*now for a long time*—by the excellent Secretary, an account of the Association, both historical and exegetical. We learn, moreover, that it is intended to re-print the list of the early members, a specimen of which we were lately shown by Dr. J. M. Warren. To the Secretary, these intimations will, we trust, be fraught with significance.

We refrain, at this time, from expressing any opinions we may entertain relative to our venerable State Society—and will merely say that we trust its dotage-time has not yet arrived—although we have heard many voices affirm that there are signs significant thereof. It ought to arise and shake itself; or, to use another figure—be taken into dock, and have the barnacles and other incumbrances which impede its progress through the medical ocean, scraped off!

We are glad to notice that the meetings of our District Society are better attended and have an apparently increasing interest for the members. If the "Social Meetings" seem generally fuller than others, it must be remembered that one of the strongest appeals possible to make to human nature is the gastronomic! And in the animal creation, the most difficult feats and wonderful performances are elicited by holding out hopes of tit-bits or of full feeding. At all events, the "well-spread board" may have a tendency to repress the contentious element, and to make all present good-natured.

A wholesome activity pervades the two Societies known under the titles of "The Boston Society for Medical Improvement," and "The Boston Society for Medical Observation." To the latter, as our readers will have remarked, we are frequently indebted for most valuable and interesting papers; and we would here suggest the preservation of such papers, as published, in a permanent form; after the plan of the Improvement Society. Whilst these two Societies differ somewhat in their management and aims, they are alike in this—that their communications are of great value, and will be found to be so in the future. Every facility for transmitting them should be afforded.

Our nearly constant presentation of the "Transactions" of the Improvement Society in the JOURNAL, we are happy to learn from many quarters—foreign as well as home—is highly acceptable to subscribers. The different modes of communication adopted in this Society, are not without their importance; and on this point we wish to say a few words. The arrangement made by the present Secretary, seems to us an excellent one—viz., to collect into a supplement to the volumes of Transactions, all papers of sufficient length which are read before the Society, whilst the shorter cases and reports are printed as heretofore, and constitute the bulk of the volumes. And, in this connection, let us say that it seems to us a great advantage, whenever cases, even such as are of moderate length, are reported in writing. A few facts or isolated statements, or a short account of a case, may be both easily and correctly given *orally*—and thus "Oral Communications" appropriately find their place in a medical Society's regular programme—but longer details of symptoms should generally be written. Two advantages seem at once to result from such a course; first, the case is likely to be more succinctly, clearly and accurately reported; secondly, the labor of the Secretary—very onerous, at best—is infinitely lightened. We cannot, therefore, join those who decry "written communications" as a part of a medical Society's plan of operations, when "medical improvement" is the question—and we have occasionally been much surprised to hear active members of our Societies oppose the reading of case-reports. Often, the same members will occupy a half hour, or at least twenty minutes, in orally reporting a case—and very constantly repeat their expressions, or forget something they should have stated, and then bring it in out of place, to the confusion of the whole matter, by breaking the thread of the story. The same account, doubtless, might have been correctly and smoothly detailed in writing, and read in half the time or less. Which is the preferable course, and which is the more likely—as we once heard of its being elegantly put—"to swamp the society?" We are referring, let it be remembered, to reports which, at any rate, would occupy several minutes. Unless members are accomplished and facile reporters, the written paper is the best mode of communication *for such cases*. A case of any length—if worth reporting at all—is far better put into a permanent and publishable shape at once. The labor performed by the Secretary of the Medical Improvement Society and the time spent—even supposing him to be seconded by the prompt supply of written accounts of reports from the members—are worth at least five hundred dollars annually. With the merely nominal remuneration now attached to the office, the incumbent should at least be more efficiently aided by members in the preparation of their reports for the press, than he now is. The "Transactions" are becoming more valuable and are more in demand every year; the sales of the volumes will bye and bye be no inconsiderable item. Let them be kept up to, and surpass, even, the high standard they have already attained. As an all-important step toward this, let the officer who has their preparation in charge, be well sustained in his efforts.

We intended, earlier in this article, to have alluded to two excellent Addresses by THOMAS C. BRINSMADE, M.D., of Troy, N. Y., late President of The Medical Society of the State of New York. The addresses were delivered before the latter Society in February last, and at the delivery of the first, members of the Legislature were present. It is only lately that we have received a copy of both,

contained in one pamphlet. We can only say of them, at present, that they are characterized by sound judgment and an earnest desire to see medical associations managed aright, and their members imbued with that spirit which will make them both conferrers and recipients of useful information. The speaker chiefly insisted, in his first Address, upon the social advantages and other inherent benefits conferred upon the members of well-regulated societies by frequent and full assemblages. He also pointedly alluded to the frequent neglect manifested by non-attendance, or by not taking pains to add to the common stock of information. In the second, which is Dr. B.'s Inaugural Address on the occasion of his becoming President of the State Medical Society, some account is given of the general plan and intentions of certain medical associations in New York city, together with the number of their members, and of the average attendance at the meetings.

Dr. Brinsmade, it will be recollected, is the gentleman to whom Dr. Durkee's lately-published work is dedicated; and he most deservedly enjoys the respect and confidence of his professional brethren of New York, and indeed of all who know him. We heartily commend the sentiments in the discourses to which we have thus briefly alluded. In his words (Address, pp. 7, 8) we will conclude:—"If such men as Abernethy, Sir Gilbert Blane, Brodie, Bateman, Cline, Astley Cooper, Lawrence, Roget, and many others of similar ability and standing, originators and supporters of the London Medical and Chirurgical Society, thought association necessary 'for mutual improvement and the advancement of medical science,' the medical men of this time might properly distrust their judgment were they to doubt the utility of medical societies. If this society had not been organized, we might never have had the benefit of the labors of these men, whose papers read before it, are evidently the germs of the larger works which have since become standard authorities."

Lead in the Cochituate Water.—We commend Dr. Bacon's interesting paper, and the discussion which followed it, and which will be found under the head of "Reports of Medical Societies." The minute proportion of lead found in the water from the iron mains is derived, undoubtedly, from the lead used in joining the pipes.

A FUND is being raised for a monument over the remains of the late Dr. Snow, in the Brompton Cemetery, London.——Diphtheria is still prevalent, and seems to be increasing, in England and Wales. Every county has been more or less affected by it.—*Medical and Surgical Reporter.*

Health of the City.—The mortality continues lower than it was the past year at this season, although the difference is not so great as it appears, 6 of the deaths for the corresponding week having been from violent causes. The large number of deaths from pneumonia at this season is an interesting, but not remarkable fact. It has been remarked by Chomel long ago. The mortality from smallpox is becoming serious. The neglect of vaccination which has caused it, is no doubt owing to the feeling of security arising from the entire absence of the disease in this city for some years past. Until vaccination is compulsory, we shall never be free from an occasional epidemic of that loathsome and dangerous disease.

Communications Received.—Letter from Dr. E. Jenner Coxe.

Books and Pamphlets Received.—Urinary Deposits, their Diagnosis, Pathology and Therapeutical Indications. By Golding Bird, M.D., F.R.S. Edited by Edmund Lloyd Birkett, M.D., &c. A new American from the fifth London edition. (From the publishers.)—Practical Remarks on Yellow Fever, &c. By Ed. Jenner Coxe, M.D. (From the Author.)—Contributions to Midwifery and Diseases of Women, Children, &c. By E. Noeggerath, M.D., and A. Jacobi, M.D. (From the Authors.)

MARRIED,—In Chelsea, 22d inst., Dr. S. Allen Engles, U. S. Navy, to Miss Sarah E., daughter of Dr. J. B. Forsyth.

Deaths in Boston for the week ending Saturday noon, June 25th, 62. Males, 38—Females, 24.—Accident, 1—inflammation of the bowels, 1—inflammation of the brain, 1—cancer of the breast, 1—cancer of the stomach, 1—consumption, 13—dropsy, 2—dropsy in the head, 2—debility, 1—infantile diseases, 5—puerperal, 1—erysipelas, 1—scarlet fever, 2—gastritis, 1—disease of the heart, 2—hæmorrhage (of the lungs), 2—inflammation of the lungs, 7—congestion of the lungs, 1—marasmus, 3—palsy, 1—pleurisy, 2—disease of the spine, 1—smallpox, 6—teething, 3—white swelling, 1.

Under 5 years, 23—between 5 and 20 years, 7—between 20 and 40 years, 16—between 40 and 60 years, 9—above 60 years, 7. Born in the United States, 41—Ireland, 16—other places, 5.